



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of:

AMIR S. MIKHAIL, ET AL.

Application No.: 10/609,268

Filed: June 26, 2003

For: **Variable Speed Wind Turbine Generator**

Art Group: 2834

Examiner: Nicholas Ponomarenko

**INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. §1.97**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure, enclosed is a copy of Information Disclosure Statement by Applicant (form PTO/SB/08), which is being submitted concurrently with the Divisional Application. It is respectfully requested that the cited references be considered and that the enclosed copy of PTO/SB/08 be initialed by the Examiner to indicate such consideration and a copy thereof returned to applicant(s).

The submission of this Information Disclosure Statement is not to be construed as a representation that a search has been made in the subject application and is not to be construed as an admission that the information cited in this statement is material to patentability.

Please charge any fees due to Deposit Account 02-2666. A duplicate copy of the Fee Transmittal (PTO/SB/17) is enclosed for this purpose.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP



Michael J. Mallie, Reg. No. 36,591

Date: May 06, 2004

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Substitute for Form 1449/PTO  <h2 style="text-align: center;">INFORMATION DISCLOSURE</h2> <h3 style="text-align: center;">STATEMENT BY APPLICANT</h3> <p style="text-align: center;">(use as many sheets as necessary)</p>				<b>Complete if Known</b>		
				Application Number	10/609,268	
				Filing Date	6/26/03	
				First Named Inventor:	Mikhail	
				Art Unit	2834	
				Examiner Name	Ponomarenko	
				Attorney Docket Number	6097.P001D2D	
Sheet <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">1</span> of 4						
<b>U.S. PATENT DOCUMENTS</b>						
Examiner Initials*	One No. <sup>1</sup>	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)				
		US-	4,193,005	3/11/1992	Kos et al.	
		US-	4,251,736	2/17/1981	Coleman	
		US-	4,339,666	7/13/1982	Patrick et al	
		US-	4,426,192	1/17/1984	Chertok et al.	
		US-	4,461,957	7/24/1984	Jallen	
		US-	4,490,093	12/25/1984	Chertok et al.	
		US-	4,525,633	6/25/1985	Wertheim et al.	
		US-	4,625,125	11/25/1986	Kuwabara	
		US-	4,695,736	9/22/1987	Doman et al.	
		US-	4,700,081	10/13/1987	Kos et al.	
		US-	4,703,189	10/27/1987	DiValentin et al.	
		US-	4,794,316	12/27/1988	Uchino et al	
		US-	4,816,696	3/28/1989	Sakayori et al.	
		US-	4,891,744	1/2/1990	Yamamoto et al.	
		US-	4,906,060	3/6/1990	Claude	
		US-	4,994,684	2/19/1991	Lauw et al.	
		US-	5,028,804	7/2/1991	Lauw	
		US-	5,083,039	1/21/1992	Richardson et al.	
		US-	5,155,375	10/13/1992	Holley	
		US-	5,225,712	7/6/1993	Erdman	
		US-	5,239,251	8/24/1993	Lauw	
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		US-	5,362,205	11/8/1994	Turner	
		US-	5,418,446	5/23/1995	Halliday	
		US-	5,652,485	7/29/1997	Spiegel et al.	
		US-	5,798,631	8/25/1998	Spee et al.	
		US-	5,798,632	8/25/1998	Muljadi	
		US-	5,907,192	5/25/1999	Lyons et al.	
		US-	6,137,187	10/24/2000	Mikhail et al.	
		US-	6,175,217	1/16/2001	Da Ponte et al.	

Examiner Signature		Date Considered	
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**Complete if Known**

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First Named Inventor:	Mikhail
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Examiner Name	Ponomarenko
Attorney Docket Number	6097.P001D2D

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## FOREIGN PATENT DOCUMENTS

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Based on Form PTO/SB/08B (08-03) as modified by BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP on 09/10/03.

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>				Application Number	10/609,268
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				Examiner Name	Ponomarenko
Sheet	3	of	4	Attorney Docket Number	6097.P001D2D

### NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T <sup>2</sup>
		"Doubly-Fed Three-Phase Generator with Voltage Intermediate Circuit Inverter in Rotor Circuit for Wind Power Systems" by Dimitrios Arsudis, University Library of Brunswick, Germany, May 1989.	
		"Operational Response of Wind Energy Systems - Closed Loop Control and Dynamic Response-Electromechanical Energy Converters" Vol. 1 and 2, Revised Report T84-154 (1) + (2). Specifically, chapters 1, 3.2, 4.3.2.2, including figures 3.2.11, 4.3.13 and 4.3.14 and chapter 5.4.3 including figure 5.4.7.	
		"Double-Output Induction Generator Operating at Subsynchronous and Supersynchronous Speeds: Steady-State Performance Optimisation and Wind Energy Recovery," I. Cadirici, et al., IEE Proceedings-B, Vol. 139, No. 5, pages 429-442. September, 1992.	
		"Doubly Fed Induction Generator Using Back-to-Back PWM Converters and Its Application to Variable-Speed Wind Energy Generation," R. Pena, et al., IEE Proc. Electr. Power Appl., Vol. 143, No. 3, Chapter 5, May 1996.	
		"Grid Integration of Wind Energy Conversion Systems," Siegfried Heier, Stuttgart, Germany, 1996. Specifically, Figure 1.3.2(a) and accompanying description, chapter 3.6.1, chapter 5.3 and chapter 5.6.	
		"Seminar and Status Report," Heier, S., et al., October 1978, pages 407-419.	
		"Controls for Variable Pitch Wind Generators," Hinrichsen, E. N., IEE Transactions on Power Apparatus and Systems, Vol. PAS 103 (1984), pages 866-892. Specifically, section 5 on pages 890-892.	
		"Load Reduction by Multivariable Control of Wind Energy Converters - Simulations and Experiments," P. Caselitz, et al., European Union Wind Energy Conference, Goteborg, pages 821 and 822, 1996.	
		Website: <a href="http://www.ifb.uni-stuttgart.de/~doerner/eGROWIAN.html">www.ifb.uni-stuttgart.de/~doerner/eGROWIAN.html</a>	
		"A Doubly Fed Induction Generator Using Back-To-Back PWM Converters Supplying an Isolated Load From a Variable Speed Wind Turbine," Pena, et al. IEE Proceedings, Electrical Power Applications, Vol. 143, No. 5, pages 380-387, 1996.	
		"Stator Field Oriented Control of Double-Excited Induction Machines in Wind Power Generating Systems," Tang, et al. Proceedings of the 35th IEE Symposium on Circuits and Systems, Vol. 2, pages 1446-1449, 1992.	
		"Application of a Matrix Converter for the Power Control of a Variable-Speed Wind-Turbine Driving a Doubly-Fed Induction Generator," Zhang, et al., Proceedings of the 23rd International Conference on Industrial Electronics, Control and Instrumentation (IECON 1997), Vol. 2, pages 906-911, 1997.	

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Sheet	4	of	4	Attorney Docket Number	6097.P001D2D

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		"Control of Wind Turbine Systems for Load Reduction," Bongers, et al., Wind Energy: Technology and Implementation, Proceedings of the European Wind Energy Conference, EWEC 1991, pages 68-72.	
		"Use of a Double-Fed Induction Machine in the Growian Large Wind Energy Converter," O. Warneke, Siemens Power Engineering, Vol. 6, No. 1, pages 56-59, 1984.	
		"Improvement in Performance of a Passive Pitch Wind Turbine with Variable Speed Operation, J.A.M. Bleijs, University of Leicester, United Kingdom.	
		"A New Class of Converters for Variable Speed Wind Turbines," Pierik, et al., European Wind Energy Association Conference and Exhibition.	
		Annual Report 1995 of Vestas Wind Systems A/S, a Danish company.	
		"Wind Turbine Engineering Design," Eggleston, et al., Van Nostar and Reinhold Co. Ltd., Chapter 14, 1987.	
		BROGAN, W.L., "Modern Control Theory," Prentice Hall, New Jersey, 1985, Chapter 17.	
		ERTL, H., et al., "Analysis of Different Current Control Concepts for Forced Commutated Rectifier," Power Conversion International Conference, June 17-19, 1986.	
		HINRICHSEN, E.N., "Variable Rotor Speed for Wind Turbines: Objectives and Issues," AP-4261, Research Project 1996-9, Final Report, September 1985, Research Reports Center, Palo Alto, California.	
		LEONARD, W., "Control of Electrical Drives," Springer - Verlag, Heidelberg, 1985, Chapters 9-12.	
		McNERNEY, et al., "The Effect of a Power Electronic Converter on Power Fluctuation and Harmonic Distortion in a WECS, ASME Wind Energy Symposium, New Orleans, LA, January, 1990.	
		MARECHAL, et al., "Variable Speed Optimal Control of a Windgenerator," European Wind Energy Association Conference and Exhibition, 7-9 October, 1986, Rome, Italy.	
		MATSUZAKA, et al., "A Variable Speed Wind Generating System and its Test Results," Hachinohe Institute of Technology, Tohoku Electric Power Company, Japan.	
		NISHIMOTO, M., et al., "An Integrated Controlled-Current PWM Rectifier Chopper Link for Sliding Mode Position Control," Presented at the IEEE Industry Application Society annual Meeting, 1986.	
		SMITH, et al., "A Variable-Speed Constant-Frequency Induction Generator for Sub and Supersynchronous Operation," European Wind Energy Association Conference and Exhibition, 7-9 October, 1986, Rome, Italy.	
		ZIOGAS, P.D., et al., "Optimum System Design of the Three-Phase PWM Rectifier-Inverter Type Frequency Changer," Presented at the IEEE Industry Application Society Annual Meeting, 1985.	

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